

**Claim Rejections under 35 U.S.C. §103**

Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hopfer (U.S. Patent No. 4,392,108) in view of newly cited Scott et al. (U.S. Patent No. 5,748,002). The rejection is respectfully traversed.

Hopfer teaches a radiation detector providing isotropic radiation monitoring and includes a probe having three loops, each forming a separate leg of the detector and having a thin film resistive strip. The three resistive legs are spaced by equal angles and provided on three planar surfaces similarly inclined with respect to the axis of a wand handle and extending in three mutually orthogonal directions to provide the isotropic operation. The three resistive legs interact respectively with three separate orthogonal components of an E-field, and together cooperate to provide isotropic monitoring of free-space radiation.

Scott et al. teaches an RF probe for monitoring the composition of substances using single-ended coupling of a load-pulled oscillator to a system being tested. The probe contains a stripline structure with a central strip coupled to a central wire of a coaxial input, and a surrounding plane coupled to the shielding of the coaxial input. A constant-impedance transmission line structure is thereby provided. Further, Scott et al. teaches that the dimensions of the central strip and separation of that strip from the adjacent surrounding plane (i.e. gap spacing), as well as the overall dimensions of the substrate may

be varied and should be selected to maintain an impedance match to the incoming line.

[ Applicant submits that the combination of Hopfer and Scott et al. is improper. Hopfer teaches a probe detector having three legs each including a resistive strip and together cooperating to provide isotropic operation. Therefore, Hopfer requires an insulator having a contact surface (e.g., a housing) for enclosing all three probe elements (i.e., all three legs) to provide the cooperative operation. Modifying Hopfer to provide a separate adjacent plane surrounding each of the resistive legs to provide separate contact surfaces would defeat the purpose of having a single contact surface (e.g., single housing) allowing for the three loops to cooperate to provide the isotropic operation. Thus, the combination would not only complicate the design of Hopfer, making use of the device more difficult, maybe impossible, and adding cost, but could result in a failure of Hopfer to operate for its intended purpose (e.g., insulation preventing cooperative operation).

L Further, there is no need to make such modification to Hopfer because Hopfer discloses a device for use in detecting radiation in free space, whereas Scott et al. discloses a device for load-pull measurements for use in connection with a variety of materials in solid, liquid, gas or plasma phase. Therefore, Hopfer would have never contemplated the need for an insulator surrounding each of the resistive legs to allow for detection in substances or materials other than in air.

Assuming *arguendo* that the combination is proper, the combination fails to disclose the claimed invention. In particular, there is no teaching or suggestion within Scott et al. that makes up for the deficiencies in the Hopfer patent document and that approaches the limitations of the independent claims as previously amended. Specifically, and contrary to the assertion in the Office Action, Scott et al. fails to teach or suggest at least "the probe conductor is equidistant with the insulator along the contact surface." Independent claims 1, 7 and 19 substantially set forth such limitation. Scott et al. teaches a probe having a central strip that is separated (i.e., having a gap) from an adjacent plane that defines an insulator having a contact surface. However, the gap between the central strip (i.e. probe conductor) and insulator formed by the adjacent plane is not equidistant with the insulator along the contact surface.

In particular, the central strip extends within the insulator, but is not equidistant with the insulator along the entire contact surface. For example, the distance at a corner of the central strip relative to the corner of the insulator is not the same as the distance from the edge of the central strip to the edge of the insulator along the contact surface due to the shape of the planar probe disclosed in Scott et al. The probe configuration disclosed in Scott et al. having a single central strip with a surrounding plane fails to teach a probe conductor that is equidistant with the insulator along the contact surface. Therefore, Applicant respectfully submits that the combination of Hopfer and Scott et al. fails to teach or suggest each and every element in the

independent claims and the rejection under 35 U.S.C. §103(a) is improper. Further, Applicant submits that the dependent claims 2-6, 8-18 and 20 are likewise allowable at least because they each depend from an allowable independent claim.

### CONCLUSION

Accordingly, in view of the above remarks, and all of the stated grounds of rejection having been properly traversed, accommodated, and/or rendered moot, reconsideration of the rejections and allowance of each of claims 1-20 in connection with the present application is earnestly solicited. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is condition for allowance.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant hereby petitions for a one (1) month extension of time for filing a reply to the outstanding Office Action and submits the required \$110.00 extension fee herewith.

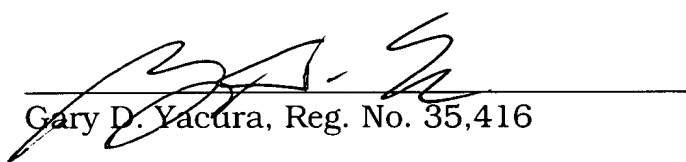
Should there be any outstanding matters that need to be resolved in the present application before allowance thereof, the Examiner is respectfully requested to contact the undersigned at (703) 390-3359.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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